

# PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND, ST. LUCIA, QUEENSLAND, AUSTRALIA. 4067.



## NEWSLETTER

N-279 287

February 1984

### CONTENTS

- 1.0 Newsletter Summary.
- 2.0 New Central Computer.
- 3.0 Charging Rates for Contract Programming.
- 4.0 New Version of CNVOBJ.
- 5.0 "SET HOST" between VAX/VMS and RSX-11/M Systems.
- 6.0 CSIRONET File Transfers.
- 7.0 Removal of Virtual Terminal to DEC10 from RSX-11/M.
- 8.0 File Transfer Spooler for RSX-11/M.
- 9.0 Network File Transfer Program for DEC-10.
- 10.0 1976 Census Data.
- 11.0 300 bps Auto Answer Dial-in Service.
- 12.0 Information Concerning Courses.
- 13.0 Prices for Microcomputers, Terminals, Line Charges, Computer Bits and Pieces.
- 14.0 Departmental Equipment for Sale.

Attachment - Index to Prentice Computer Centre  
Newsletter Issues 1983.

Authorized by the Director of the Computer Centre

## Principal Service Centres

### Extensions

Operations Manager	3471
Contract Programming & Feasibility Studies	3944
System Status Automatic Answering	3101
General Enquiries & Course Enrolments	3018
Training & Courses	3021

## Consulting

### PROBLEM AREA                      MAIL BOX                      NAME AND EXTENSION

#### Operations and Programming

Accounts	ACCOUNTS	Carol Walker	2188
Cobol	COBOL	Chris McGovern	2962
Commands, system use and probs	COMMANDS	Ian Otto	4075
Database (VG, 1022)	DATABASE	Brett Peterson	3018
Fortran	FORTRAN	Ellen Farr	3022
Graphics	GRAPHICS	Mark Williams	2921
Micros	MICROS	Geoffrey Dengate	3018
Network	NETWORK	Bryan Claire	4078
Operations	OPERATIONS	Senior Operator	3212
PDP-11 Software	PDP11	Danny Smith	2921
Program Library, Tapes	LIBRARY	Lee MacDonald	3943
Statistics	STATISTICS	Peter Akers	2951
		Greg Lehmann	3020
Text processing, Typesetting	TEXT	Andrew Broughton	2837
Non-specific problems	OPERATIONS	Senior Operator	3212

#### Engineering and Maintenance

Development and communications	ENGIN	Graham Rees	3288
Mini/Micro support	ENGIN	Colin Lythall	3942
		Alan Langdon	4018
Mini and terminal maintenance	MAINT	Maralyn Kenley	3938
Dial-up modem number			3772977

#### Griffith University:

Consulting	7682
Computer Services	7560
Computing Co-ordinator	7561

## 1. Newsletter Summary

- Some brief details are provided of the new IBM 3083 system to be installed in March.
- Changes to contract work rates apply from 1 January 1984.
- A new version is available of a DEC10 program (CNVOBJ) for converting between different formats of files commonly used in microprocessor systems.
- VAX/VMS users and RSX-11/M users may have some problems when conducting a terminal session on another system in the network. If you have had an error code "hardware option not present" or 'option not present' then see the section "Set Host between VAX/VMS and RSX-11/M Systems".
- An error in the CSIRONET file transfer software has been corrected.
- The RXT task which provides an improved method of virtual terminal access from RSX-11/M systems to DEC10 is available. The current method of virtual terminal access will not be available after 31 March.
- Decnet users now have a network file transfer spooler. As well as a new network file transfer task (NFT to replace NETACC) which is quicker and cheaper.
- The Collection District Summary information for Queensland from the 1976 and 1981 Census of Population on Housing is now available for access via the data base system on the KL10 computer.
- Those who use acoustic couplers should note the new number 377 2977 (or extension 2977 for free internal calls).
- Information is provided on courses.

*Director  
extension 2189*

## 2. New Central Computer

Specifications were issued in May 1983 for additional central computing equipment to replace the 15 year old KA10 system and meet growth in demand for central computing services for the University of Queensland and Griffith University. Seven tenders were received and, following detailed evaluation, the Computing Committees of the University of Queensland and Griffith University reached a unanimous decision to recommend acceptance of the IBM tender. This was approved by both Universities and a contract was executed with IBM on 24 November 1983.

The equipment is to be delivered in March 1984. It comprises an IBM 3083E system with 16 million bytes of memory, four IBM 3380 disk storage units each with a capacity 2500 million bytes, two IBM 3420 High Speed Magnetic Tape Units (320K bytesec and 6250 bpi), a 3203 Line Printer (1000 lpm) and five IBM Series 1 Communications Processors.

Following acceptance test and the necessary work by the Centre to bring the system into operation, it is planned that the system be available to users on a restricted basis for trial and practice at no charge. Formal operations are planned to commence by Second Semester. The Computing Policy Committee has appointed a Committee (Convenor - Dr. R. Girle, Philosophy) to consider the basis of charging.

Further details will be provided on languages, data base systems, operational aspects and special training courses etc. in the next issue of the newsletter.

*Director*  
*extension 2189*

### **3. Charging rates for Contract Programming**

As from 1.1.1984 the overhead charge for contract programming and systems work for jobs involving more than 25 hours of work was increased from 15 per cent to 20 per cent additional to the actual costs of staff employed on a job.

In as far as smaller jobs are concerned the hourly rate for contract programming and systems work for jobs involving 25 hours or less of work was increased from \$20 per hour to \$30 per hour, with the minimum charge to be \$30 for any one job.

These increases are unfortunately unavoidable and are designed to bring contract programming rates closer to the actual costs incurred.

*Tony Bird*  
*extension 3944*

### **4. New Version of CNVOBJ**

CNVOBJ is a DEC10 program for converting between different formats of object files commonly used in microprocessor systems.

A new version of CNVOBJ was recently moved to MXI:. The main new features are the /OFFSET switch for specifying a relocation constant to be added to all load addresses in the input file and the /ODD and /EVEN switches for specifying that the output file is to contain data from the input file which would have been loaded at ODD or EVEN addresses. This last pair of switches is particularly useful for preparing Read Only Memories for use in the BDV-11 (and similar) bootstrap boards for the Q-BUS PDP-11 family. Such boards require a rom for the ODD byte of a word and a separate ROM to store bytes with EVEN address.

*Arthur Hartwig*  
*extension 4079*

### **5. "SET HOST" between VAX/VMS and RSX-11/M Systems**

DECNET under VAX/VMS and RSX-11/M includes utilities which allow users to conduct a terminal session on another system. Under VAX/VMS the "SET HOST" command is used to begin a session on another system which may be a VAX/VMS system or an RSX-11/M system. Under RSX-11/M the command RMT is used to begin a session on a remote RSX-11/M system and the command RVT is used to begin a session on a remote VAX/VMS system.

In all cases though, the remote system cannot make use of terminal facilities that are not present in the system to which the system is physically connected. Mostly this doesn't cause any problems but just recently a case did arise in which a VAX/VMS user SET HOST to an RSX-11/M system and invoked an RSX task (namely QEDIT) which attempted to ATTACH the console with unsolicited-input character AST. VAX/VMS does not provide the ability to ATTACH the console with unsolicited-input character AST so the operation failed with RSX returning to the task the error code "hardware option not present".

Users who use the network to conduct sessions on remote VAX/VMS or RSX-11/M systems should be aware this may happen and not be perturbed by it. Note that not all RSX-11/M systems are generated with the same features in the terminal driver, and attempts to use a feature which the driver doesn't support is also likely to cause an error code of "option not present" to be returned to the requesting task.

*Arthur Hartwig  
extension 4079*

## **6. CSIRONET File Transfers**

A bug in the CSIRONET file transfer software which caused a file transferred to CSIRONET to have 1 to 4 erroneous characters ("^") appended has been fixed.

*Arthur Hartwig  
extension 4079*

## **7. Removal of Virtual Terminal to DEC10 from RSX-11M Systems**

The current method of virtual terminal access to the DEC10 from RSX-11M systems running DECNET-11M will not be supported after 31 March 1984. The current method relies on a facility of the DECNET gateways which is being removed because it is expensive in CPU time and uses memory which could be used for buffers to improve the performance of the DECNET gateways.

An alternate method of virtual terminal access to the DEC10 will be made available. The new method is a considerable improvement over the previously available method in that status is now passed between the DEC10 and the RXT task so that terminal echo can be controlled by DEC10 (login passwords will now not echo) and the terminal can be switched in and out of single character mode.

Users wishing to obtain a copy of the RXT task (which can be used now) should contact Danny Smith (ext. 2921).

*Arthur Hartwig  
extension 4079*

## **8. File Transfer Spooler for RSX-11M**

Users of RSX-11M systems which run DECNET-11M may wish to make use of the network file transfer spooler (FTS). FTS works in a similar fashion to NFT (the Network File Transfer task) except that the transfers are not performed immediately but rather requests are placed on a queue and subsequently processed by a spooler.

Some differences between network file transfers done using NFT and transfers done using FTS:

1. NFT transfers begin immediately, but FTS transfers begin an indefinite time after the request is made. An FTS switch allows users to request the transfer to not begin until AFTER a specified time.
2. If a remote node is not on-line NFT cannot perform the transfer, but FTS will wait until the remote node comes on-line.

3. NFT reports the status of the transfer to the user's terminal (TI:) but FTS can be directed to log the result of each transfer request to a file.

The FTS software can be obtained by first contacting Danny Smith (ext. 2921).

Arthur Hartwig  
extension 4079

## 9. Network File Transfer Program for DEC-10

A new program NFT for performing network file transfers between the DEC10 and DECNET nodes (such as RSX-11 systems and VAX/VMS systems) has recently been put on NEW:. NFT has a number of advantages over the older program NETACC.

1. NFT is quicker and cheaper than NETACC especially for transfers to the DEC10 and transfers to a VAX. For example, a transfer of a 415 block file from the DEC10 to node UQVAX cost \$3.58 and took 3 mins 58 secs elapsed time using NETACC and cost \$0.99 and took 1 min 57 sec elapsed time using NFT.
2. NFT takes notice of the type of the remote system and optimises the transfer. NFT will normally write files to a non-FCS-11 (i.e. non RSX-11M) system in "stream" mode for lowest cost and fastest transfer. However RSX-11/M systems normally cannot process "stream" mode files so NFT sends files to RSX-11/M systems in "variable length record" mode which takes more time because NFT must take notice of the file record (or line) boundaries.

Note that files transfered to VAX/VMS systems for use under the RSX-/M emulator must be written in "variable length record" mode otherwise the RSX-11/M utilities will not be able to process the files. The switch /TRANSFER:NOSTREAM may be used to force NFT to transfer a file in "variable length record" mode.

3. NFT is able to transfer files to the DEC10 in an 8 bit-byte mode suitable for direct queuing to the phototypesetter. Such files must be written on the DECNET system with attributes "fixed length records". The switch /TRANSFER:ASCII may be used to force NFT to write a file transferred to the DEC10 as a file of 7-bit bytes, i.e. a normal text file.
4. NFT includes a mode in which the DEC10 may be used as a file archive for DECNET nodes. If the /TRANSFER:BLOCK switch is used then files are written to the DEC10 as 8-bit bytes and the file attributes of file-organisation, record attributes, record format and maximum record size are encoded into the DEC10 file version word along with a flag to indicate this has been done. When a file is transferred to a DECNET system its DEC10 version number is examined and if it appears to be an encoded set of file attributes these attributes are set on the file written on the DECNET system.
5. NFT supports wild-cards on both the DEC10 and DECNET systems.

Further details can be found in the NFT HELP file which may be typed by giving the command

HELP NFT

to the monitor or the /HELP switch to the NFT program.

NFT is invoked by the monitor command

R NFT

*Arthur Hartwig  
extension 4079*

## **10. 1976 Census Data**

The Collection District Summary information for Queensland, from the 1976 Census of Population and Housing, is now available for access via the 1022 data base system on the KL-10. This complements the 1981 census data already available via 1022.

To understand the structure and content of the data base file, the user is referred to the following publication, copies of which may be obtained from the Australia Bureau of Statistics Office in Brisbane.

1976 Census of Population and Housing  
Collection District  
Summary Files  
Final Data  
Technical Details  
Catalogue No. 2131.0

The record formats given in the above booklet are reproduced in the file TABL76.MEM with sequentially numbered table entries to correspond to CENQ76.DMD.

As for the 1981 census data, the files of interest are stored on the private disk pack CENA: under the PPN [5,121].

For information on techniques of accessing this data base please consult the August 1983 Newsletter (N-283), article 4.

Any difficulties or enquiries should be directed to me.

*Geoffrey Dengate  
extension 2835*

## **11. 300 bps Auto Answer Dial-In Service**

The 300 bps dial-in automatic answering services on 371 2799 and 371 4177 which have been used with acoustic couplers for many years and more recently direct-connect modems will be disconnected on 1 February 1984. These services are connected to Toowong Telephone Exchange and cost the user a local call charge for each use. They are to be replaced by six new auto answer modems connected to the University PABX which will mean free use on campus.

The new service is on 377 2977 and there are six modems in a rotary group. The services are all connected to the MICOM circuit switch.

*Graham Rees  
extension 3288*

## **12. Information Concerning Courses**

The following courses will be offered during the period February-June, 1984:

(GU) denotes the course will be held at Griffith University.

## March

Introduction to PDP-10	March 6-9 4 half days 9-12
1022	March 12-16 5 half days 1-4
RUNOFF	March 19-23 5 half days 9-12
SPSS	March 26-30 5 half days 1-4.30

## April

Typesetting	April 3-6 4 half days 9-12
Elementary BASIC Programming	April 9-13 5 half days 1-4
Introduction to PDP-10	April 15-19 4 half days 1-4
Elementary TECO Editing	April 26-27 2 half days 9-12

## May

Introduction to PDP-10	May 1-4 4 half days 9-12
RUNOFF	May 8-11 4 half days 1-4.30
CAD/CAM	May 15-18 4 full days 9-12 + 1-4
SPSS	May 21-24 4 half days 9-1
1022	May 28-31 4 half days 9-1

## June

Introduction to PDP-10	June 4-7 4 half days 9-12
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### Notes:

1. Users without basic knowledge and experience of the DEC-10 system, together with some facility in the use of an editor, **MUST** attend the course "Introduction to PDP-10" before enrolling in any other course (except for the CAD/CAM course).
2. A brief description of the content of each course was provided in Newsletter N-279.
3. All of the above courses will be held in Room G13A - Hawken Building (except for the CAD/CAM course, which is held in the Graphics Room, Hawken Building, and courses designated GU).

4. Enrolments for all courses may be made by phoning extension 3018.

*Barry Maher*  
extension 3021

### **13. Prices for Microcomputers, Terminals, Line Charges, Computer Bits and Pieces**

For the convenience of users, a series of files containing prices and short descriptions of items, is now available on the system. Type HELP PRICES to obtain a list of the files containing prices on various classes of items. The appropriate file may then be typed or printed. Prices are updated regularly.

Please use these lists first before making detailed enquiries to the Computer Centre staff.

*Maralyn Kenley*  
extension 3938

### **14. Departmental Equipment for Sale**

Terminals for sale:— ADM3A, TELERAY 1061 and Perkin-Elmer PE550 Visual Display units.

Tektronix 4010 graphics terminal.

Texas silent 700 hard copy terminal.

All realistic offers will be considered.

Contact: Barry Daniel, Mechanical Engineering Department, extension 3938.

If you have modules and peripherals which are no longer required but may be of use to other departments or may be saleable outside please advise us by MAIL to ENGIN or MAINT or contact

*Maralyn Kenley*  
extension 3938



# Index to Prentice Computer Centre Newsletter

## *Dates of Issues Published in 1983*

N-279	24 January 1983
N-280	28 March 1983
N-281	16 May 1983
N-282	27 June 1983
N-283	1 August 1983
N-284	19 September 1983
N-285	31 October 1983
N-286	5 December 1983

	issue	pages
<b>A</b>		
Accounts		
Non-used Accounts	N-282	2-3
Security of Your Account	N-285	1
AUSTPAC		
AUSTPAC Gateway	N-284	1-2
Further AUSTPAC News	N-286	4-10
Autobauding to 9600 baud on ANF-10 Nodes	N-279	2-3
<b>C</b>		
Census Data 1981	N-282	13-14
	N-283	4-5
Computervision CAD/CAM System	N-282	5-6
Courses Information		
	N-279	8-13
	N-280	11-13
	N-281	11-13
	N-282	15-16
	N-283	6-8
	N-284	4-5
	N-285	3-5
	N-286	11-12
<b>D</b>		
Disk Pack Backup Facilities	N-281	2
	N-285	2
<b>E</b>		
Equipment for Sale (Departmental)	N-279	13
	N-280	13-14
	N-281	13
	N-282	15
	N-283	8
	N-284	5

		N-285	5
		N-286	12
<b>F</b>			
	FAL		
	Current State of FAL Implementation	N-279	2
	Farewell 1983	N-286	12
	Files		
	Definitive work on File Transfers	N-280	6-11
	File Transfers between the DECsystem-10 and CSIRONET	N-286	10-11
	Removal of Files from Offline Area	N-286	2
	Transfers between KL10 and other Network Nodes	N-279	1
	FMS – Enhanced Facilities	N-282	12-13
	FORTTRAN 77	N-282	15
<b>G</b>			
	Galaxy 4		
	A New Version of the Spooling and Mount System	N-286	13
	GIGI		
	GIGI Terminals – Memory Expansion	N-281	8
<b>I</b>			
	IMSL		
	New Version	N-279	3-4
		N-285	2-3
<b>L</b>			
	LABPAK	N-282	6-12
	Library News	N-284	3
<b>M</b>			
	Manuals		
	New Technical Manual 1 – General Information	N-280	13
	Typesetting Manual	N-284	1
	MIDAS		
	MIDAS and other Network Developments	N-283	1-3
	Some Problems	N-280	4-6
	MLP – Maximum Likelihood Program	N-279	6-7
<b>N</b>			
	NAG		
	Description of Outstanding Errors	N-279	4-6
		N-281	9-11
		N-284	3
	Network		
	MIDAS and other Network Developments	N-283	1-3
	Network Unreliability	N-286	4
	Reconfiguration	N-280	3-4

Newsletter		
Merger of Newsletters	N-281	1
Summary	N-281	1-2
	N-282	1
	N-283	1
	N-284	1
	N-285	1
	N-286	1
Non-Conforming Use	N-282	2
<b>P</b>		
Passwords		
Network Passwords on the PDP-10	N-281	4-5
Phototypesetter		
Compugraphic 8400 Typesetter	N-286	2-3
New Phototypesetter	N-282	3-5
Reducing Typesetting Costs	N-285	3
Typesetting Manual	N-284	1
Upgrades to Typesetting System	N-283	5-6
Project Programmer Numbers		
Expiry Date	N-284	4
	N-285	1-2
	N-286	2
PROLOG	N-283	3-4
<b>Q</b>		
QEDIT		
New Version	N-280	1-2
New Version for RSX11M	N-286	3-4
<b>R</b>		
RSX		
File Transfers to the PDP-10	N-281	2-4
Making your RSX-11 Terminal become a Terminal on the PDP-10	N-281	5-6
New Version of QEDIT for RSX11M	N-286	3-4
<b>S</b>		
Sirius		
Australian Sirius Users' Group	N-280	14
Software House 1022 DBMS		
New Version	N-281	8-9
SPSS Graphics	N-282	12
System Availability over Christmas Break	N-286	1-2
<b>T</b>		
Tapes		
Library News	N-284	3
Private Tapes	N-282	3
Tektronix		
The Tektronix Plotting Library (TCS) Shifts House on the VAX	N-281	6-7

Terminals

Notice of Cancellation of Bookings N-284 4  
Setting Terminal Characteristics for  
Central Hosts N-282 14-15

TYPE

New Switches added to TYPE N-279 7-8

V

VAX/VMS System

RTXPAD Program for VAX/VMS Systems N-284 2  
The Tektronix Plotting Library (TCS)  
Shifts House on the VAX N-281 6-7

W

WORDSTAR Users N-285 5